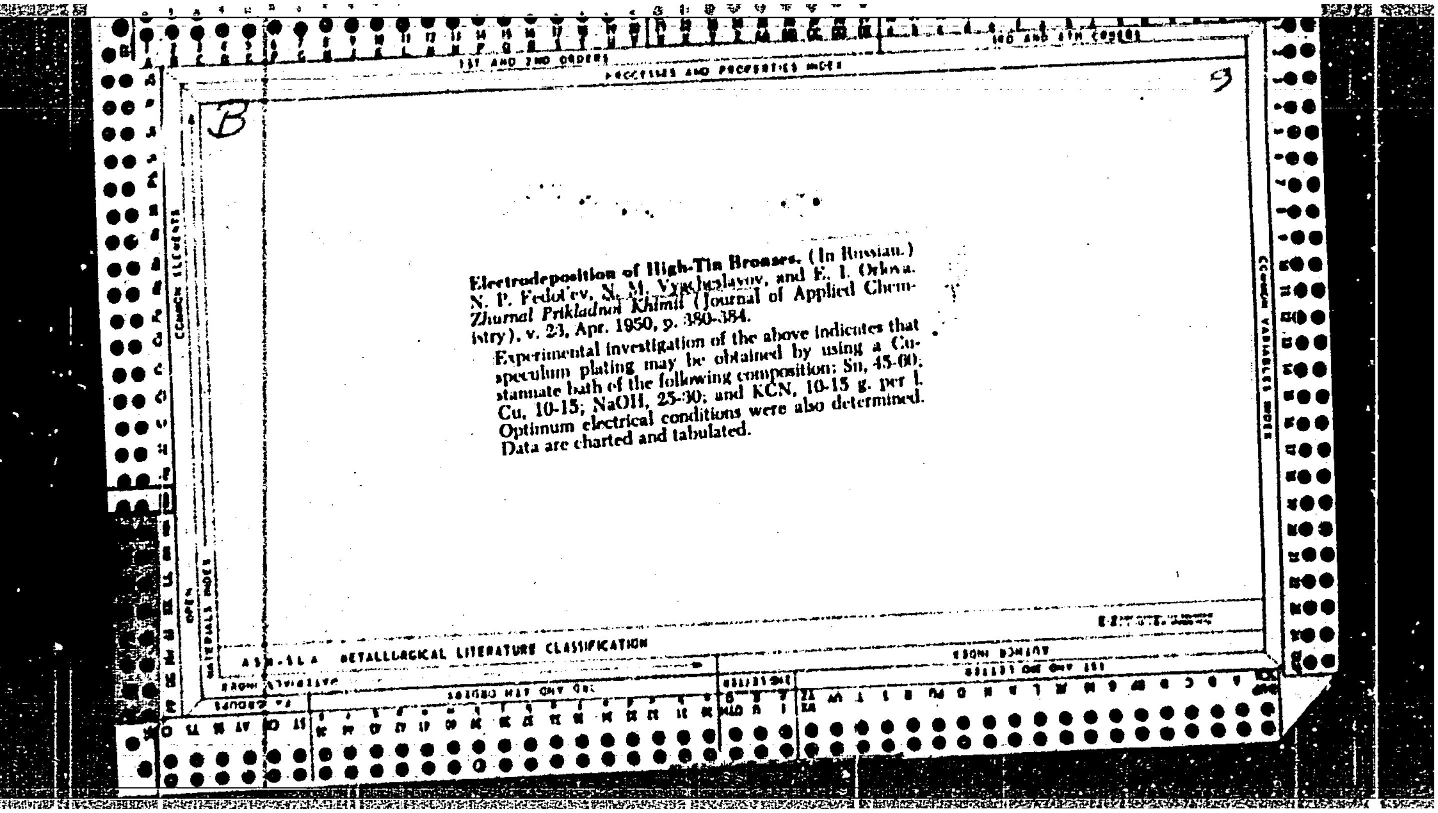
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3RD AND 4TH ORDERS
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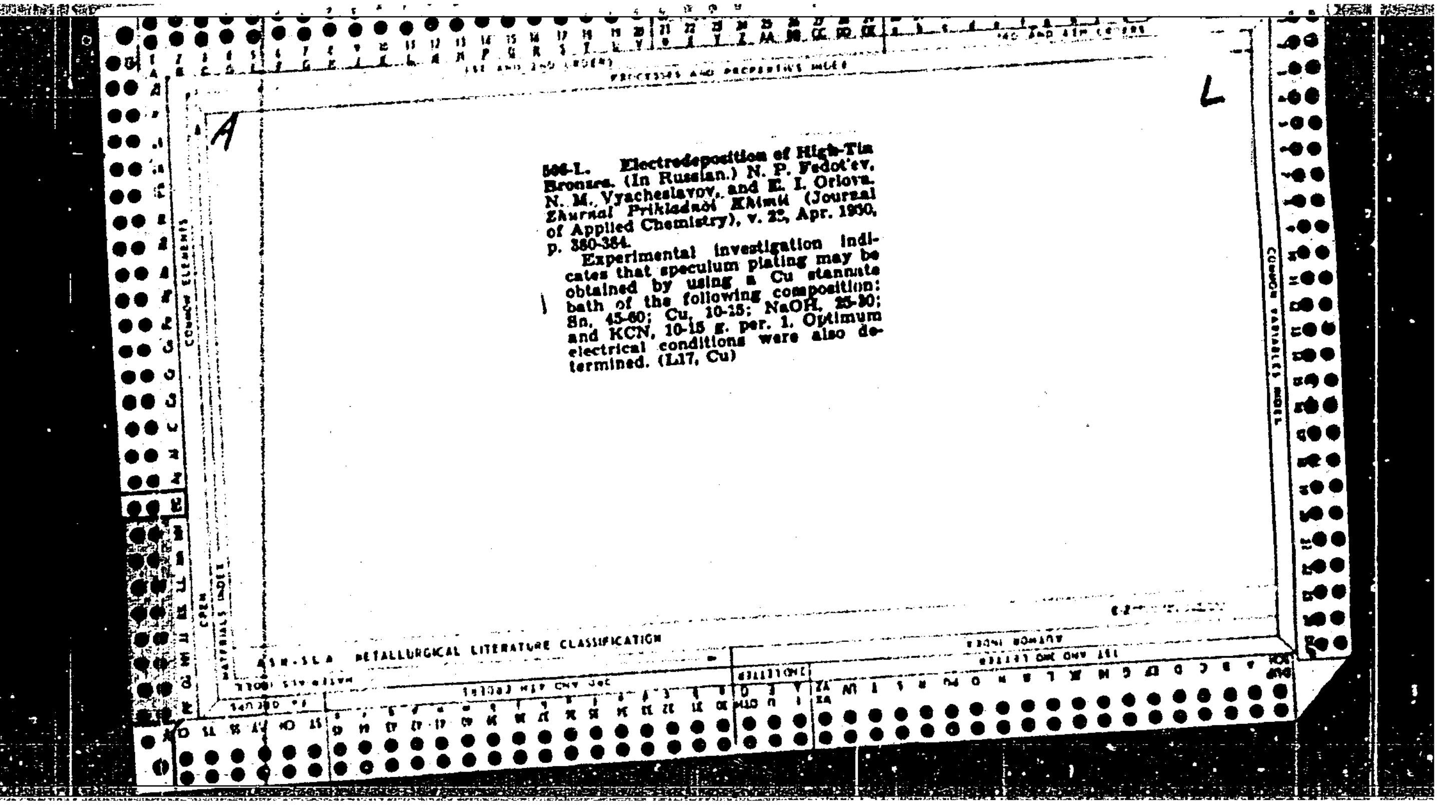
COMMON ELEMENTS
COMMON VARIABLES INDEX
MATERIALS INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Electrodeposition of High-Tin Bronzes. (In Russian.) N. P. Fedot'ev, N. M. Vyacheslavov, and E. I. Orlova. *Zhurnal Prikladnoi Khimii* (Journal of Applied Chemistry), v. 23, Apr. 1950, p. 380-384.

Experimental investigation of the above indicates that speculum plating may be obtained by using a Cu-stannate bath of the following composition: Sn, 45-60; Cu, 10-15; NaOH, 25-30; and KCN, 10-15 g. per l. Optimum electrical conditions were also determined. Data are charted and tabulated.



PROCESSES AND PROPERTIES INDEX
A
L
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

506-L. **Electrodeposition of High-Tin Bronzes.** (In Russian.) N. P. Fedot'ev, N. M. Vyacheslavov, and E. I. Orlova. *Zhurnal Prikladnoi Khimii* (Journal of Applied Chemistry), v. 23, Apr. 1950, p. 380-384.

Experimental investigation indicates that speculum plating may be obtained by using a Cu stannate bath of the following composition: Sn, 45-60; Cu, 10-15; NaOH, 25-30; and KCN, 10-15 g. per. l. Optimum electrical conditions were also determined. (L17, Cu)

S/0080/64/037/007/1469/1477

ACCESSION NR: AP4041796

AUTHOR: Andreyeva, G. P.; Fedot'yev, N. P.; Vyachaslavov, P. M.

TITLE: Physicochemical properties and structure of Au-Cu electrolytic alloy

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 7, 1964, 1469-1477

TOPIC TAGS: gold copper alloy, electrolytic gold copper alloy, gold copper alloy electrodeposition, gold copper alloy structure, gold copper alloy property

ABSTRACT: An experimental study of the properties of an electrolytically deposited Au-Cu alloy has shown that electrolysis in a cyanide electrolyte containing 5.5—0.2 g/ℓ Au, 0.2—5.5 g/ℓ Cu, and 5.5 g/ℓ KCN at a temperature of approx 60C and a current density of 0.15 amp/dm^3 produces in 1 hr satisfactory deposits 6—8μ thick. The deposit consists of a solid solution with a crystal lattice of gold. The fresh deposits have a phase composition differing greatly from that of the Au-Cu metallurgical alloy. Depending on the gold content and the current density it may have, instead of a single phase, two

Cord 1/2

ACCESSION NR: AP4041796

or even three phases, i.e., solid solutions of different composition, Au Cu_3 and Au Cu intermetallic compounds, and very finely dispersed copper particles. However, as a result of natural or artificial aging, the phase structure of the alloy changes and becomes rather similar to that of the metallurgical Au-Cu alloy. The resistivity of electrodeposited alloys is roughly of the same magnitude and has the same composition dependence as those of metallurgical alloys. The microhardness of electrolytic alloys is much higher than that of metallurgical alloys, although in both types of alloys the composition dependence of microhardness follows the same pattern. Orig. art. has: 7 figures.

ASSOCIATION: none

SUBMITTED: 08Apr63 ATD PRESS: 3074 ENCL: 00

SUB CODE: MM NO REF SOV: 006 OTHER: 002

Card 2/2

Metallurgical Abst.
June 1954
Electrodeposition

Electrodeposition of Black Nickel. N. P. Fedotov, P. M. Vyacheslavov, and N. P. Onusin (*Zhur. Priklad. Khim.*, 1952, 25, (3), 322-324 (in Russian); *J. Appl. Chem. U.S.S.R.*, 1952, 25, (3), 351-354 (in English)).—The bath used contained (g./l.): $NiSO_4.7H_2O$ 75, $NiSO_4.(NH_4)_2SO_4.6H_2O$ 45, $ZnSO_4.7H_2O$ 40, NH_4CNS 15, H_3BO_3 25. Increasing the c.d. (D_k) gave darker deposits, but with high D_k the deposit was "scorched", i.e. was powdery. However, by raising the temp., the range of D_k at which black Ni deposited was also raised. At temp. of 60° C. and above, the deposits produced at low D_k (0·02-0·38 amp./dm.^{2}) were grey. The transition from grey to black Ni was discontinuous, as was shown by the cathode polarization curve. Analysis of a grey deposit obtained at 60° C. with D_k 0·03 amp./dm.^{2}, current efficiency (η) 5%, showed that the ratio of Ni : Ni + Zn was 80%, compared with 31% for a black deposit obtained at 70° C., 0·70 amp./dm.^{2}, and η = 19%. To ensure good adherence, it is recommended that deposition should begin at D_k = 0·02-0·03 amp./dm.^{2} to give a dense deposit of grey Ni (preferably on a previous deposit of ordinary Ni); then D_k should be gradually increased to the value necessary for black Ni (1·3 amp./dm.^{2}). The pH should be 4·5-5·5. The bath has a good throwing power.—G. V. E. T.

Chair Electrochem., Leningrad Tech. Inst. im. Lensovet and Methods for

6

VYACHESLOV, P.M.

VYACHESLAVOV, P M

4

USSR.

✓ Economy of nonferrous metals in electroforming. [illegible]
Fedot'ev, P. M. V[illegible] [illegible]
form.-Tekhn.-Ekon. Vestnik [illegible]
Polit. i Nauch. Znanii [illegible]
Propagandy 1953 No. 14 [illegible]
1954, No. 40168.—A discussion of replacing Cu with Fe in
electroforming. The com[illegible]
$FeSO_4$ [illegible] NaCl [illegible]
is 6. At room temp. the [illegible] 2 amp./sq. dm. At [illegible]
and upon addn. of [illegible]
raised to [illegible] amp./sq. [illegible]
Fe plating of graphite [illegible]
deposits [illegible] increased [illegible]
[illegible]

Vyacheslavov, P. M.

USSR.

✓Electrodeposition of gold plate of superior hardness. N. P. Fedot'ev, S. M. Ostroumova, and P. M. Vyacheslavov. J. Appl. Chem. U.S.S.R. 27, 35~~-41(1954)(Engl. translation)~~.--See C.A. 48, 6339e. H. L. H.

VYACHESLAVOV, P.M.

VYACHESLAVOV, I.M.

4

The effect of thickness on the structure and properties of electrodeposited metals. N. P. Fedot'ev, N. P. Gnusin, and I. M. Vyacheslavov. J. Appl. Chem. U.S.S.R. 28, [illegible] (Engl. translation). See [illegible] 30 [illegible]

CH

②

VYACHESLAVOV, P.M.

AID P - 3496

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 11/21

Authors : Fedot'yev, N. P., N. P. Gnusin, and P. M. Vyacheslavov

Title : Effect of layer thickness on the structure and properties of electrodeposited metals

Periodical : Zhur. prikl. khim., 28, 6, 634-637, 1955

Abstract : Grain size and microhardness of copper deposits and surface roughness of copper, zinc, and cadmium deposits were studied. With increase in the layer thickness, the microhardness decreases and the grain size increases. Five diagrams, 4 references, 3 Russian (1941-1953).

Institution : None

Submitted : Ja 25, 1954

Vyacheslavov, P.M.

Chem 3

Electrochemical deposition of gold coatings of increased hardness. II. N. P. Fedot'ev, P. M. Vyacheslavov, and N. M. Ostroumova. *Trudy Leningrad. [illegible] Inst. im. Lensoveta* 35, 3-12(1955); cf. C.A. 49, 6106b.—Adding 10-12 g./l. Co to Au cyanide electrolyte increased the microhardness of the deposit by 80%, its wear resistance by 190%, and the rate of deposition of Au by 100%. The deposit contained no Co and its color was not affected. X-ray analysis showed that the crystal grain size was reduced from $\sim 10^{-4}$ to $\sim 10^{-5}$ cm. This accounted for the improved phys. qualities of the deposit. According to the suggested mechanism, the complex Co ions, adsorbed on electrodeposition, were only deformed by the elec. field, forming dipoles. This hindered the discharge of Au ions on preferred points and led to the formation of new crystn. centers and, hence, to the reduced size of the crystals. R. M. E.

PM

Vyrcheslanov, P. M.

FEDOT'YEV, N.P.;OSTROUMOVA, N.M.;VYACHESLAVOV, P.M.

Solid gold plating. Zhur. prikl. khim. 29 no.4:489-492 Ap '56.
(MLRA 9:11)

1. Kafedra elektrokhimii Leningradskogo tekhnologicheskogo instituta imeni Lensoveta i TSentral'naya nauchno-issledovatel'skaya laboratoriya kamney samotsvetov.
(Gold plating)

VYACHESLAVOV, Petr Mikhaylovich, dots., kand. khim. nauk; LANTRATOV, M.F., dots., kand. khim. nauk, retsenzent; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.; SIMONOVSKIY, N.Z., red. izd-va; SOKOLOVA, L.V., tekhn. red.

[Fundamentals of electroplating] Osnovnye poniatiia o gal'vanotekhnike. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 38 p. (Bibliotechka gal'vanotekhnika, no.1). (Electroplating) (MIRA 11:9)

VYACHESLAVOV, P. M.

YAMPOL'SKIY, Anatoliy Mikhaylovich, inzh.; LEUSSKIY, I.F., inzh., retsenzent; GRILIKHES, S.Ya., VYACHESLAVOV, P.M., dots., kand. khim. nauk, red.; VARKOVETSKAYA, A.I., red. izd-va; SOKOLOVA, kand. tekhn. nauk, red.; VARKOVETSKAYA, A.I., red. izd-va; SOKOLOVA, L.V., tekhn. red.

[Electroplating with rare and precious metals] Gal'vanotekhnika dragotsennykh i redkikh metallov. Pod obshchei red. P.M.Viacheslavova. Moskva, Gos. nauchno-tekhn. izd-vo mashino-stroit. lit-ry, 1958. 41 p. (MIRA 11:9)

(Electroplating)

IL'IN, Vitaliy Alekseyevich; FEDOROV, V.A., inzh., retsenzent; VIACHESLAVOV, P.M., dots., kand. khim. nauk, red.; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.; SIMONOVSKIY, N.Z., red. izd-va; SOKOLOVA, L.V., tekhn. red.

[Zinc and cadmium plating] TSinkovanie i kadmirovanie. Pod obshchei red. P.M. Viacheslavova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 44 p. (Bibliotechka gal'vanotekhnika, no.3).
(Zinc plating) (Cadmium plating) (MIRA 11:10)

VYACHESLAVOV, P. M.

GRILIKHES, Semen Yakovlevich, kand. tekhn. nauk; KHEYFETS, V.L., kand. tekhn. nauk, retsenzent; VIACHESLAVOV, P.M., dots., kand. khim. nauk, red.; YAMPOL'SKIY, A M., inzh., red.; VASIL'YEVA, V.P., red. izd-va; SOKOLOVA, L.V., tekhn. red.

[Preparation of articles for electroplating and finishing of the electroplate] Podgotovka izdelii pered gal'vanicheskimi pokrytiiami i otdelka pokrytii. Pod obshchei red. P.M. Viacheslavova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 60 p. (Bibliotechka gal'vanotekhnika, no.2). (MIRA 11:9)
(Electroplating)

VYACHESLAVOV, P.M.

BIBIKOV, Nikolay Nikolayevich; NEMTSEVA, F.Ye., inzh., retsenzent;
VYACHESLAVOV, P.M., dots., kand. khim. nauk, red.; GRILIKHES,
S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.;
SIMONOVSKIY, N.Z., red. izd-va; SOKOLOVA, L.V., tekhn. red.

[Electroplating with a periodic reverse current] Gal'vanicheskie pokrytiia na toke peremennoi poliarnosti. Pod obshchei red. P.M. Viacheslavova. Moskva, Gos. nauchno-tekhn. izd-vo mashino-stroit. lit-ry, 1958. 47 p. (Bibliotechka gal'vanotekhnika, no.10).
(Electroplating) (MIRA 11:9)

VYACHESLAVOV, P.M.

YAMPOL'SKIY, Anatoliy Mikhaylovich, inzh.; TSAY, Ye.T., inzh., retsenzent; VYACHESLAVOV, P.M., dots., kand. khim. nauk, red.; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; VARKOVETSKAYA, A.I., red. izd-va; SOKOLOVA, L.V., tekhn. red.

[Copper and nickel plating] Mednenie i nikelirovanie. Pod obshchei red. P.M. Viacheslavova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 41 p. (Bibliotechka gal'vanotekhnika, no.5). (MIRA 11:9)

(Copper plating)
(Nickel plating)

CHERKEZ, Mikhail Borisovich; BOGORAD, L.Ya., inzh. retsenzent; VIACHESLAVOV, P.M., dots., kand. khim. nauk, red.; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.; SIMONOVSKIY, N.Z., red., izd-va; SOKOLOVA, L.V., tekhn. red.

[Chrome and iron plating] Khromirovanie i zheleznenie. Pod red. P.M. Viacheslavova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 84 p. (Bibliotechka gal'vanotekhnika, no.6).
(Electroplating) (MIRA 11:9)

VYACHESLAVOV, Petr Mikhaylovich, dots., kand. khim. nauk; FEDOT'YEV, N.P., prof., doktor khim. nauk, retsenzent; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.; SIMONOVSKIY, N.Z., red. izd-va; SOKOLOVA, L.V., tekhn. red.

[Alloy plating] Gal'vanicheskie pokrytiia splavami. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 37 p. (Bibliotechka gal'vanotekhnika, no.7). (MIRA 11:9)
(Electroplating)

IL'IN, Vitaliy Alekseyevich; FEDOROV, V.A., inzh., retsenzent; VYACHESLAVOV, P.M., dots., kand. khim. nauk, red.; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.; SIMONOVSKIY, N.Z., red. izd-va; SOKOLOVA, L.V. , tekhn. red.

[Tin and lead plating] Luzhenie i svintsevanie. Pod obshchei red. P.M. Viacheslavova. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 31 p. (Bibliotechka gal'vanotekhnika, no.4).
(Tin plating) (Lead plating) (MIRA 11:9)

KHUGLOVA, Yekaterina Georgiyevna, inzh.; VYACHESLAVOV, Petr Mikhaylovich, dots., kand. khim. nauk.; CHERNOVA, P.L., inzh. retsenzent.; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.; VARKOVETSKAYA, A.I., red. izd-va.; SOKOLOVA, L.V., tekhn. red.

[Control of plating baths and coatings] Kontrol' gal'vanicheskikh vann i pokrytii. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 107 p. (Bibliotechka gal'vanotekhnika, no. 12).
(MIRA 11:12)

(Electroplating)

GRILIKHES, Semen Yakovlevich, kand. tekhn. nauk,; CHERNOVA, P.L., inzh.;retsenzent; VYACHESLAVOV, P.M., kand. khim. nauk, dots., red.; YAMPOL'SKIY, A.M., inzh., red.; GOFMAN, Ye.K., red. izd-va,; SOKOLOVA, L.V.,tekhn. red.

[Protection of metals by means of oxide and phosphate coatings] Zashchita metallov oksidnymi i fosfatnymi plenkami. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 64 p. (Bibliotechka gal'vanotekhnika, no. 9).
(MIRA 11:11)
(Protective coatings)

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.

Effect of peening on the microhardness of electroplated coatings. Trudy LTI no. 53:3-8 '59. (MIRA 14:3)
(Electroplating--Testing)
(Metals--Cold working)

PHASE I BOOK EXPLOITATION SOV/3960

Vyacheslavov, Petr Mikhaylovich

Osnovnyye ponyatiya o gal'vanotekhnike (Fundamentals of Electrodeposition) Moscow, Mashgiz, 1958. 38 p. (Series: Bibliotechka gal'vanotekhnika, vyp. 1) Errata slip inserted. 10,000 copies printed.

Reviewer: M. F. Lantratov, Candidate of Chemistry, Docent; Editorial Board: P. M. Vyacheslavov (Chairman), S. Ya. Grilikhes, Candidate of Technical Sciences, and A. M. Yampol'skiy, Engineer; Ed. of this book: S. Ya. Grilikhes, Candidate of Technical Sciences; Managing Ed. for Literature on the Design and Operation of Machinery (Leningrad Division, Mashgiz): F. I. Fetisov, Engineer; Ed. of Publishing Hous: N. Z. Simonovskiy; Tech. Ed.: L. V. Sokolova.

PURPOSE: This book is intended for skilled workers, laboratory technicians and foremen of electroplating and electroforming shops.

COVERAGE: The book is the first volume of the "Little Library of Electrodeposition" series. The series contains basic information on electroplating processes and reviews Soviet and foreign research in

Card 1/3

the field. This volume presents fundamental chemical and electrochemical information necessary for properly carrying out electroplating and electroforming processes. No personalities are mentioned. There are 4 references, all Soviet.

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7. General concept of solutions 14

Ch. II. Fundamental Concepts in Electrochemistry 16
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Fundamentals of Electrodeposition SOV/3960

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15. Passivity of metals 29
16. Polarization. Hydrogen overvoltage 29
17. Bath potential 31
18. The Joule-Lenz Law 32

Ch. III. Electrodeposited Coatings 33
19. Classification and field of application 33
20. Specifications for metallic coatings 35
21. Factors which affect the structure of electrodeposited coatings 35
22. Dispersive and coating capacity of baths 38

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AVAILABLE: Library of Congress (TS670.B6)

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8-25-60

25(1) PHASE I BOOK EXPLOITATION SOV/2293

Vyacheslavov, Petr Mikhaylovich

Gal'vanicheskiye pokrytiya splavami (Electroplating With Alloys) Moscow, Mashgiz, 1959. 40 p. (Series: Bibliotechka gal'vanotekhnika, vyp. 7) Errata slip inserted. 8,000 copies printed.

Reviewer: N. P. Fedot'yev, Doctor of Chemical Sciences, Professor; Editorial Board of Series: P. M. Vyacheslavov (Chairman), Candidate of Chemical Sciences, Docent, S. Ya. Grilikhes, Candidate of Technical Sciences, and A. M. Yampol'skiy, Engineer; Ed. of this vol.: S. Ya. Grilikhes, Candidate of Technical Sciences; Ed. of Publishing House: N. Z. Simonovskiy; Tech. Ed.: L. V. Sikolova; Managing Ed. for Literature on the Design and Operation of Machinery (Leningrad Division, Mashgiz): F. I. Fetisov, Engineer.

PURPOSE: This booklet is designed to provide skilled workers, foremen, and laboratory workers in electroplating shops with basic information on galvanic coatings and to acquaint them with current Soviet and non-Soviet practices in the field.

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Electroplating With Alloys (Cont.) SOV/2293

COVERAGE: The author discusses the technology of electroplated coatings with such alloys as copper-zinc, copper-tin, tin-lead, nickel-cobalt, and others. He also discusses gold-copper, zinc-cadmium, and a few other alloys being considered for industrial application. No personalities are mentioned. There are 16 references, all Soviet.

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17. Malfunction in the tank for gilding and methods for eliminating the causes 37
18. Removal of gold plating 38

Electroplating With Alloys (Cont.) SOV/2293

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AVAILABLE: Library of Congress

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10-1-59

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.

Grain size and microhardness of electrolytic copper. Trudy LTI no.53:9-12 '59. (MIRA 14:3)
(Copper—Metallography)
(Copper--Electrometallurgy)

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; ZHILINA, L.P.

Effect of various factors on the hardenss of copper deposited from a cyanide electrolyte. Trudy LTI no.53:13-17 '59.
(MIRA 14:3)

(Copper--Electrometallurgy)
(Hardness)

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; POLYAKOV, G.S.

Degree of dispersion of copper powder in the electrolysis of hydrochloric solutions. Trudy LTI no.53:18-22 '59. (MIRA 14:3)
(Powder metallurgy) (Cooper--electrometallurgy)

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A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 13(I), p. 423,
53240

AUTHORS: Fedot'yev, N. P., Vyacheslavov, P. M., Gurevich, O. M.

TITLE: Microhardness of Nickel Coatings 18 and its Dependence on the Microgeometry of the Surface
ge

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1959, No. 53, pp. 23-29

TEXT: An investigation was made of the effect of the electrolyte component concentration, pH and D_c on microhardness and roughness of Ni-coatings obtained from a solution of the following composition (in g/l): $NiSO_4 \cdot 7H_2O$ 150; Na_2SO_4 75; $MgSo_4 \cdot 7H_2O$ 30; NaCl 20; H_3BO_3 20; the thickness of the Ni-coatings was 50μ. Changes in the $NiSO_4 \cdot 7H_2O$ and $MgOSO_4 \cdot 7H_2O$ concentration do not affect the degree of roughness and hardness of the Ni-coating, while Na_2SO_4 increases the roughness and reduces microhardness; NaCl increases considerably and H_3BO_3 reduces roughness and microhardness. At a change of pH the maximum roughness corresponds to $pH = {}_2 3$; at a change of D_c the minimum microhardness corresponds to $D_c = 1.5$ amp/dm^2. A raise of

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Card 1/2

83491
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A006/A001

Microhardness of Nickel Coatings and its Dependence on the Microgeometry of the Surface

temperature to 40 - 45°C entails increased roughness and reduced microhardness. It was established that a dependence existed between the degree of roughness and microhardness, represented by a hyperbolic curve which is described by the equation $H = 200\ h^{-0.353}$, where H is the hardness number of the Ni deposit, (kg/mm²), and h is the degree of roughness of the surface, μ.

From the authors' summary.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

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S/081/60/000/012(II)/008/010
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 12 (II), p. 499, # 48488

AUTHORS: Fedot'yev, N.P., Vyacheslavov, P.M.

TITLE: Electrochemical Deposition of High-Hardness Nickel

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1959, No. 53, pp. 30-36

TEXT: The authors recommend the following electrolyte composition and conditions to obtain hard highly-lustrous Ni coating containing ~ 10% P : (in g/l) $NiSO_4 \cdot 7H_2O$ 150 - 200; NaCl 30; $NaH_2PO_2 \cdot H_2O$ 20; H_3PO_4 50; D_c = 8 - 10 amp/dm^2; temperature 65-70°C; pH 1-2.5; anodes - Ni; cathode current efficiency: 70-90%. A higher P content in the coating (from 3 to 10%) raises its microhardness (from 150 to 500 kg/mm^2); the latter decreases (from 600 to 200 kg/mm^2) with higher D_c (from 1 to 6 amp/dm^2). Heat treatment of the coating at 600°C raises its microhardness up to 1,200kg/mm^2. The deposit has a high-dispersion structure. The X-ray analysis confirms the existence of a new phase in addition to Ni.

M.M.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

S/081/60/000/012(II)/009/010
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 12 (II), p. 500, # 48491

AUTHORS: Fedot'yev, N.P., Aleskovskiy, V.B., Vyacheslavov, P.M., Volokhonskiy, N.V., Romanova, D.L.

TITLE: Microhardness and the Degree of Purity of Electrolytic Cobalt Surfaces

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1959, No. 53, pp. 37-42

TEXT: The authors studied the effects on microhardness and electrolytic Co surface roughness of the thickness of the coating, pH of the electrolyte, D_c, temperature and the anode material. It is established that microhardness increases and roughness decreases with a reduced thickness of the deposit, pH raising from 3.5 to 5, increase in D_c to 2.5 amp/dm^2 and dropping temperature. An equation is derived on the correlation of the roughness degree with the microhardness of the cobalt deposits : $H = Kh^n$ where H is the microhardness,

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S/081/60/000/012(II)/009/010
A006/A001

Microhardness and the Degree of Purity of Electrolytic Cobalt Surfaces

kg/mm^2; h is the degree of roughness, μ (?), K and n are the coefficients depending on the nature on the metal deposited.(K = 275 and n = 0.08 for Co). To obtain Co deposits with a high degree of roughness, the authors recommend a $CoSO_4 \cdot 7H_2O$ solution of 200 g/l; pH 2 - 3.5, temperature 60 - 70°C, D_c = 10-25 amp/dm^2, and a Pb anode.

The authors' resumé

Card 2/2

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; BARDIN, V.V.

Effect of various factors on the deposition process and the properties of electrolytic chromium. Trudy LTI no.53:43-50 '59. (MIRA 14:3)

(Chromium plating) (Electrolysis)

85814

18.7400

S/081/60/000/019/002/012
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 19, p. 338, # 78027

AUTHORS: Fedot'yev, N. P., Vyacheslavov, P. M., Luzan, M. D.

TITLE: Electrochemical Deposition of High-Hardness Silver Coatings 18

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1959, No. 53, pp. 54-63

TEXT: The effect of admixtures, such as $K_2Ni(CN)_4$ and $K_3Co(CN)_6$, and of current pulsation on the hardness and wear resistance of Ag coatings was studied on an electrolyte of the following composition (in g/l): Ag_{met} 26, KCN_{free} 20, K_2CO_3 30 at $T = 20 \pm 0.5^\circ C$. At $D_{cath} = 0.2 - 0.3$ amp/dm^2 an increase in Ni concentration from 0.5 to 14 g/l causes higher microhardness of the deposit, raising from 90 to 120 kg/mm^2; this is explained by the formation of a solid Ag/Ni solution. At $D_{cath} = 0.5 - 1.5$ amp/dm^2, microhardness begins to decrease which is explained by the joint discharge of hydrogen ions; as a result a loose deposit with a reduced hardness is formed. A decrease in the Ag concentration in the electrolyte at $D_{cath} = 1$ amp/dm^2 entails a reduction in hardness of the deposit. This is connected with the drop of current efficiency and the formation

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A006/A001

Electrochemical Deposition of High-Hardness Silver Coatings

of a loose deposit. At a thickness of the deposit of $< 50\mu$, hardness decreases due to the coarsening of the crystal size. A higher KCN content raised from 5 to 100 g/l or K_2CO_3 from 10 to 100 g/l, causes a slight decrease in the hardness of Ag coatings. When 0.2 - 0.8 g/l Co is added to the electrolyte, the same regularities are observed as by the addition of Ni. However, Co does not enter the deposit and its effect is explained by adsorption on the electrode surface of stable $Co(CN)_6^{3-}$ complexes, which causes a reduced size of the deposit grains. Investigations with pulsating current showed that the latter raises microhardness by 15 - 20%. It is established that Ni admixtures shift the polarization curve toward the side of more negative values by 0.01 v and admixtures of Co by 0.4 v. All the curves have inflection points at $D_{cath} = 1.1 - 1.2$ amp/dm^2, which corresponds to the onset of hydrogen separation. The following composition of silver-plating electrolyte is recommended (in g/l): Ag 26 - 30; Co 0.8 - 1 (or Ni 0.4 - 0.5), KCN_{free} 15 - 25; K_2CO_3 20 - 40; $D_{cath} = 0.8 - 1$ amp/dm^2; $D_{anode} = 0.4 - 0.5$ amp/dm^2, temperature 18 - 25°C, current efficiency on the cathode = 95%. In this case the microhardness of Ag coatings is 1.4 - 1.5 times higher than that produced from an electrolyte without Ni or Co admixtures. R. Bek.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; KRUGLOVA, Ye.G.; RUDNEVA, V.P.

Electrolytic deposition of tin-zinc alloys. Trudy LTI no.53:64-71 '59. (MIRA 14:3)

(Tin plating) (Tin-zinc alloys)
(Corrosion-resistant materials)

23422

18 7400 1454,1087,1160

S/081/61/000/005/007/024
B110/B205

AUTHORS: Fedot'yev, N. P., Vyacheslavov, P. M., Kruglova, Ye. C., Fonteynes, Ye. A.

TITLE: Technology of electrochemical deposition of an Sn-Cd alloy and its corrosion resistance under tropicalized conditions

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1961, 390-391, abstract 5K186 (5K186), ("Tr. Leningr. tekhnol. in-ta im. Lensoveta", 1959, vyp. 53, 72-81)

X

TEXT: An electrolyte having the composition (g/l): $Cd(BF_4)_2$ = 240-250; $Sn(BF_4)_2$ = 24-30; NH_4BF_4 = 50-60; HBF_4 = 50-70; H_3BO_3 = 10-20; glue 0.5-1; D_K = 1.5-2a/dm^2, temperature 18-25°C, is recommended for use in depositing the alloy Cd-Sn (40-60 % Sn). The effect of D_K and of the concentration of the constituents on the composition and quality of the deposit have been studied. Optimum corrosion resistance at 25-100 % moisture and 20-60°C was exhibited by an alloy with 40-60 % Sn, which had been

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B110/B205

Technology of electrochemical...

passivated in a solution of H_2SO_4 = 5-10 g/l and $(NH_4)_2Cr_2O_7$ = 150 g/l. [Abstracter's note: Complete translation.]

Card 2/2

87664

5.1310 1087,1018,1208

S/137/60/000/010/040/040
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 10, p. 315, # 24982

AUTHORS: Fedot'yev, N.P., Vyacheslavov, P.M., Kruglova, Ye.G., Andreyeva, G.P.

TITLE: Electrochemical Deposition of Co-Tungsten Alloy and its Properties

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1959, No. 53, pp. 82-97

TEXT: It is shown that the composition of the Co-tungsten deposit depends to a high degree on the metal concentration ratio in the electrolyte, since a higher tungsten/cobalt ratio causes a higher tungsten content in the deposit, although current efficiency decreases. At a concentration of $(NH_4)_2SO_4$ raised from 10 to 150 g/liter in the electrolyte, the tungsten content in the deposit increases from 7 to 26%. The current efficiency changes along the curve with a maximum at a concentration as high as 150 g/liter and furthermore drops. A higher $D_{cathode}$ increases the tungsten amount in the deposit; however, the quality of the deposit deteriorates; the luster disappears, and roughness appears. At a

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A006/A001

Electrochemical Deposition of Co-Tungsten Alloy and its Properties

higher electrolyte temperature a gradual increase of the tungsten percentage in the alloy takes place. The current efficiency increases noticeably. It is established that the dispersing capacity of the electrolyte for the deposition of the cobalt-tungsten alloy exceeds by 10 - 15% that of the Ni-electrolyte. The authors studied the dependence of microhardness of the deposited cobalt-tungsten alloy on various factors of electrolysis. Investigations of the wear resistance of cobalt-tungsten alloy coatings in pair with Ni and in pair with the same alloy showed that it was higher in the latter case than during wearing in pair with Ni. It was stated that the cobalt-tungsten deposit was sufficiently corrosion-resistant in SO_2 and NO_2 atmosphere. The composition of the electrolyte for the deposition of an alloy with 35% tungsten is given.

N.I.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

28 (5)

AUTHORS:	Fedot'yev, N. P., Vyacheslavov, P. M., Yudilevich, S. R.	SOV/32-25-6-32/53
TITLE:	Measurement of the Porosity of Chromium Coatings According to the Method of Mercury Compression (Izmereniye poristosti khromovykh pokrytiy metodom vdavlivaniya rtuti)	
PERIODICAL:	Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 739-740 (USSR)	

ABSTRACT:

The porosity of chromium coatings was in the present case investigated by the method of mercury compression by means of a pore gauge (Ref 3). This method permits the determination of the volume of pores with a radius of from 350000 to several Ångström. The pore measuring device is a massive steel cylinder into which the glass dilatometer with the sample is put. The dilatometer is filled with mercury, next the cylinder is exposed to pressure (the pore measuring device PA-5 allows a pressure of 5000 kg/cm^2). Mercury penetrates into the pores of the sample under pressure and the change in volume in the dilatometer is determined by means of the variation of the electric resistance of a calibrated platinum wire. Cylinders of steel St. 2, electrolytically coated with

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Measurement of the Porosity of Chromium Coatings According to the Method of Mercury Compression SOV/32-25-6-32/53

chromium are used as samples. Before the actual measurement a blank measurement is made on not chromed samples. The measurements carried out by V. F. Karel'skaya (Table 1) show that the maximum operational pressure necessary for the filling of the pores with mercury does not exceed 400 kg/cm^2. A change in electrolysis temperature of from 36 to 66° leads to a reduction of the volume of pores. The latter was also found by other methods (Table 2). There are 2 tables and 4 Soviet references.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet)

5(2, 4) SOV/80-32-5-44/52

AUTHORS: Fedot'yev, N.P., Vyacheslavov, P.M., Kruglova, Ye.G., Grilikhes, S.Ya.

TITLE: The Corrosion-Resistance of Some Galvanic Alloys Under Tropical-Like Conditions

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 5, pp 1165-1167 (USSR)

ABSTRACT: Binary and ternary alloys are used for preparing protective coating on metals by the galvanic method. The coatings were tested in a heat and moisture chamber imitating tropical conditions. Zinc and zinc-tin coatings were passivated by a mixture consisting of 3 g/l sodium dichromate, 10 g/l caustic soda, 5 g/l OP-10 (polyethyleneglycolic ether). The temperature of the solution was 90 - 95°C, the duration 5 - 10 sec. The coatings were applied to carbon steel St3. The corrosion-resistance decreases in the following order: passivated zinc-cadmium alloy (83% Cd), passivated cadmium, passivated tin-zinc alloy (20% Zn), passivated tin-cadmium alloy (60 - 40% Cd), copper-tin alloy (40 - 75% Sn), copper (38 - 78%)-tin (18 - 52%)-zinc (3 - 10%) alloy, copper (37 - 53%)-tin (27 - 35%)-cadmium (9 - 26%) alloy non-passivated zinc and cadmium.

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SOV/80-32-5-44/52

The Corrosion-Resistance of Some Galvanic Alloys Under Tropical-Like Conditions

There are 7 references, 4 of which are Soviet, 2 English and 1 German.

SUBMITTED: September 19, 1958

Card 2/2

5.1310,5.2200

75669
SOV/80-32-10-18/51

AUTHORS: Fedot'yev, N. P., Vyacheslavov, P. M., Kruglova, Ye. G., Andreyeva, G. P.

TITLE: The Technique of Electrochemical Deposition of Cobalt-Tungsten Alloy and Its Properties

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10, pp 2235-2242 (USSR)

ABSTRACT: The authors' studies showed that the electroplating with Co-W alloys proceeded much better in an electrolyte composed of W, Co, $(NH_4)_2SO_4$, and 25% solution of NH_4OH than in electrolytes based on citric acid and potassium sodium tartrate recommended by other investigators. The composition of the deposit depended chiefly on the ratio of the concentration of component metals in the electrolyte. The tungsten content in the deposit increased with increasing W/Co ratio, and the yield based on current decreased. The tungsten content in the deposit increased with increasing concentration of $(NH_4)_2SO_4$ and

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Alloy and Its Properties

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the quality of the deposit improved. The value of the NH_4OH concentration did not affect the composition but only the quality of the deposit, which became darker and finally black at a concentration of 140 g/l. The same effect was shown by NaOH. It was also found that the tungsten content in the deposit increased with increasing current density. The optimal conditions for depositing Co-W alloy with 35% W content are: electrolyte composition, W 12 g/l; Co 4 g/l; $(NH_4)_2SO_4$ 250 to 300 g/l; 25% NH_4OH solution 30 to 40 g/l; NaOH 10 g/l; current density 8 to 12 amp/dm^2; temperature 50 to 60^o; anodes: platinum or tungsten. The hardness of the deposit can be increased almost twofold by a heat treatment at 600^o for 1 hr. The hardness was thus raised from 500-700 kg/mm^2 to a maximum of about 1,000 kg/mm^2. Abrasion resistance of Co-W deposit on nickel was considerably higher than that of silver deposit on nickel. A very high abrasion resistance was shown by Co-W

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The Technique of Electrochemical Deposition of Cobalt-Tungsten Alloy and Its Properties

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deposit (65% Co and 35% W) on a surface of identical composition. The investigated Co-W deposits showed a considerably higher resistance than cobalt and nickel to the corrosive action of 1:1 concentration of sulfuric, nitric, and hydrochloric acid as well as to NO_2 and SO_2. The deposit containing 35% W resisted well the corrosive action of 3% NaCl solution at room temperature, and it dissolved at a very low rate (0.1 g/m^2 per 24 hrs). There are 2 tables; 12 figures; and 6 references, 1 U.S., 1 British, 4 Soviet. The U.S. and British references are: J. Research Nat. Bur. Stand., Oct. (1947); The Engineer, 185, 4805 (1948).

SUBMITTED: September 19, 1958

Card 3/3

IL'IN, Vitaliy Alekseyevich; BRUK, E.S., inzh., retsenaent; VYACHESLAVOV, P.M., kand. khim.nauk,dots., red.; GRILIKHES, S.Ya., kand.tekkhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.; MITARCHUK, G.A., red. izd-va; BARDINA, A.A., tekhn. red.

[Zinc and cadmium plating]TSinkovanie i kadmirovanie. Pod red. P.M.Viacheslavova. Izd.2., dop. i parer. Moskva, Mashgiz, 1961. 48 p. (Bibliotechka gal'vanotekhnika, no.2) (MIRA 16:2)
(Zinc plating) (Cadmium plating)

IL'IN, Vitaliy Alekseyevich; BOGORODITSKAYA, V.A., inzh., retsenzent;
VYACHESLAVOV, P.M., kand. khim. nauk, dots., red.; GRILIKHES,
S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.;
DUBUSOVA, G.A., red. izd-va; BARDINA, A.A., tekhn. red.

[Tin and lead plating]Luzhenie i svintsevanie. Pod red. P.M.
Viacheslavova. Izd.2., dop. i perer. Moskva, Mashgiz, 1961.33 p.
(Bibliotechka gal'vanotekhnika, no.3) (MIRA 16:2)
(Tin plating) (Lead plating)

KRUGLOVA, Yekaterina Georgiyevna, inzh.; VYACHESLAVOV, Petr Mikhaylovich, dots., kand. khim. nauk; SMOTKINA, B.R., inzh., retsenzent; GRILIKHES, S.Ya., kand. tekim. nauk, red.; YAMPOL'SKIY, A.M., red.; ONISHCHENKO, R.N., red. izd-va; BARDINA, A.A., tekhn. red.

[Control of electroplating baths and coatings] Kontrol' gal'vanicheskikh vann i pokrytii. Izd.2., dop. i perer. Moskva, Mashgiz, 1961. 146 p. (Bibliotechka gal'vanotekhnika, no.12) (MIRA 15:4)

(Electroplating--Equipment and supplies)

VAYNER, Yakov Vul'fovich; KUSHNAREV, B.P., inzh., retsenzent; VYACHESLAVOV,
P.M., kand.khim.nauk, dotsent, red.; YAMPOL'SKIY, A.M., inzh.,
red.vypuska; GRILIKHES, S.Ya., kand.tekhn.nauk, red.; FOMICHEV,
A.G., red.izd-va; BARDINA, A.A., tekhn.red.

[Equipment of electroplating plants] Oborudovanie gal'vanicheskikh
tsekhov. Izd.2., dop. i perer. Pod red. P.M.Viacheslavova.
Moskva, Mashgiz, 1961. 93 p. (Bibliotechka gal'vanotekhnika,
no.11) (MIRA 14:12)
(Electroplating--Equipment and supplies)

VYACHESLAVOV, Petr Mikhaylovich, kand. khim. nauk, dots.; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red. ONISHCHENKO, R.N., red. izd-va; BARDINA, A.A., tekhn. red.

[Alloy plating] Pokrytiia splavami. Izd.2., dop. i perer. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 67 p. (Bibliotechka gal'vanotekhnika, no.6) (MIRA 14:11)
(Electroplating) (Alloys)

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; KRUGLOVA, Ye.G.; FONTEYNES, Ye.A.

Technology of ekectrolytic Sn-Cd deposition and its corrosion resistance in near tropical conditions. Trudy LTI no.53:72-81 '61. (MIRA 14:3)

(Tin plating) (Tin-cadium alloys)
(Corrosion-resistant materials)

CHERKEZ, Mikhail Borisovich; VORONITSYN, I.S., kand. tekhn. nauk, retsenzent; VYACHESLAVOV, P.M., kand. khim.nauk, dots., red.; GRILIKHES, S.Ya., kand. tekhn. nauk, red.; YAMPOL'SKIY, A.M., inzh., red.; SIMONOVSKIY, N.Z., red. izd-va; BARDINA, A.A., tekhn. red.

[Chromium plating and iron plating] Khromirovanie i zheleznenie. Izd.2., dop. i perer. Pod red. P.M.Viacheslavova. Moskva, Mashgiz. 1961. 83 p. (Bibliotechka gal'vanotekhnika, no.5)
(MIRA 14:12)

(Chromium plating) (Iron plating)

BIBIKOV, Nikolay Nikolayevich; MASLOV, N.N., kand.tekhn.nauk, retsenzent; VYACHESLAVOV, P.M., kand.khim.nauk, dotsent, red.; GRILIKHES, S.Ya., kand.tekhn.nauk, red.vypuska; YAMPOL'SKIY, A.M., inzh., red.; ONISHCHENKO, R.N., red.izd-va; BARDINA, A.A., tekhn.red.

[Metal deposition by currents of alternating polarity] Osazhdenie metallov na toke peremennoi poliarnosti. Izd.2., dop. i perer. Pod red. P.M.Viacheslavova. Moskva, Mashgiz, 1961. 68 p. (Bibliotechka gal'vanotekhnika, no.10). (MIRA 14:12)

(Electroplating)

POPILOV, Lev Yakovlevich; KAMENETSKIY, M.P., kand. tekhn. nauk, retsenzent; VYACHESLAVOV, P.M., kand. khim. nauk, dots., red.; GRILIKHES, S.Ya., red. vypuska; YAMPOL'SKIY, A.M., inzh. red.; ONISHCHENKO, R.N., red. izd-va; BARDINA, A.A., tekhn. red.

[Electroplating] Gal'vanoplastika. Pod red. P.M.Viacheslavova. Moskva, Mashgiz, 1961. 62 p. (Bibliotechka gal'vanotekhnika, no.6) (MIRA 14:12)

(Electroplating)

YAMPOL'SKIY, Anatoliy Mikhaylovich, inzh.; NEMTSEVA, F.Ye., inzh., retsenzent; VYACHESLAVOV, P.M., kand. khim. nauk, dots., red.; GRILIKHES, S.Ya., kand. tekhn. nauk, red. vypuska; FOMICHEV, A.G., red. izd-va; BORDINA, A.A., tekhn. red.

[Copper plating and nickel plating] Mednenie i nikelirovanie. Izd.2., dop. i perer. Pod red. P.M.Viacheslavova. Moskva, Mashgiz, 1961. 57 p. (Bibliotechka gal'vanotekhnika, no.4) (MIRA 14:12)
(Copper plating) (Nickel plating)

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; ANDREYEVA, G.P.

Structure and properties of the electrodeposited alloy Sn-Cd.
Zhur.prikl.khim. 35 no.7:1537-1542 Jl '62. (MIRA 15:8)
(Tin-cadmium alloys)

FEDOT'YEV, N.P., doktor khim. nauk, prof.; BIBIKOV, N.N.; VYACHESLAVOV, P.M.; GRILIKHES, S.Ya.; ALABYSHEV, A.F., doktor tekhn.nauk, prof., retsenzent; ROTINYAN, A.L., doktor tekhn.nauk, prof., red.; LAYKINA, T.L., red.izd-va; CHFAS, M.A., red.izd-va; PETERSON, M.M., tekhn. red.

[Electrolytic alloys]Elektroliticheskie splavy. Pod red. N.P. Fedot'eva. Moskva, Mashgiz, 1962. 311 p. (MIRA 16:3)
(Alloys--Electrometallurgy)

VYACHESLAVOV, P.M.

PHASE I BOOK EXPLOITATION SOV/6308

Fedot'yev, N. P., Doctor of Chemical Sciences, Professor, N. N. Bibikov, P. M. Vyacheslavov, and S. Ya. Grilikhes

Elektroliticheskiye splavy (Electrolytic Alloys) Moscow, Mashgiz, 1962. 311 p. 12,500 copies printed.

Reviewer: A. F. Alabyshev, Doctor of Technical Sciences, Professor; Ed.: A. L. Rotinyan, Doctor of Technical Sciences, Professor; Eds. of Publishing House: T. L. Leykina and M. A. Chfas; Tech. Ed.: M. M. Peterson; Managing Ed. for Literature on Machine-Building Technology, Leningrad Department, Mashgiz: Ye. P. Naumov, Engineer.

PURPOSE: This book is intended for engineering personnel of plants, scientific research institutes, and design organizations. It may also be useful to students at schools of higher technical education.

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Electrolytic Alloys SOV/6308

COVERAGE: The book reviews the theory and practices of depositing protective, protective-decorative, antifriction, heat-resistant, and other special alloy coatings. Considerable attention is paid to Soviet work in the field of electrolytic deposition of alloys. Experimental data obtained by the authors have been widely used in compiling the present book. The authors thank Engineers V. I. Gribel' and G. P. Andreyeva for their assistance. References follow each chapter.

TABLE OF CONTENTS:

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Ch. I. Structure and Properties of Alloys 5
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Ch. II. Basic Electrical and Chemical Laws Governing the Electrolytic Deposition of Alloys 23

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FEDOT'YEV, N.P., prof.; ALABYSHEV, A.F.; ROTINYAN, A.L.; VYACHESLAVOV, P.M.; ZHIVOTINSKIY, P.B.; GAL'NBEK, A.A.; MORGACHEVSKIY, A.G., red.; ERLIKH, Ye.Ya., tekhn. red.

[Applied electrochemistry]Prikladnaia elektrokhimiia. Leningrad, Goskhimizdat, 1962. 638 p. (MIRA 15:12)
(Electrochemistry)

S/080/62/035/007/007/013
D214/D307

AUTHORS: Fedot'yev, N.P., Vyacheslavov, P.M. and Andreyeva, G.P.

TITLE: Structure and properties of electrodeposited Sn-Cd alloys

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 7, 1962, 1537-1542

TEXT: The structure and some properties of electrodeposited Sn-Cd alloys were determined and compared with those of the same alloys obtained by fusion. X-ray studies of 14 samples of the alloy, containing from 2.4 to 99% Cd, showed the lattice parameters to be close to the values obtained for the equivalent alloys prepared from melts. The Sn-Cd alloys, deposited from a KCN solution, crystallize in accordance with the phase diagram and contain Cd/Sn eutectics. Measurements of the potentials of the alloys in a $1NCdSO_4$ solution against a standard calomel electrode also showed the alloys to behave as a eutectiferous mixture of Sn and Cd crystals. The micro-

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S/080/62/035/007/007/013
D214/D307

Structure and properties ...

hardness increases linearly from 13.2 to 33.8 kg/mm^2 and the specific resistance decreases linearly from 0.154 to 0.114 Ω mm/m as the Cd content increases. The resistivities of the electrodeposited alloys were about 25% higher than those of the equivalent alloys prepared from their melts. An increase in the Cd content causes the cathodic polarization to increase; the polarization curves for the simultaneous deposition of both metals lie in the more positive region than that in which curves for the deposition of the separate components are situated. There are 5 figures and 1 table.

SUBMITTED: September 22, 1961

Card 2/2

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; ANDREYEVA, G.P.

Structure and properties of the electrodeposits of zinc-cadmium alloys. Zhur.prikl.khim. 36 no.3:572-578 My '63. (MIRA 16:5)

1. Kafedra elektrokhimii Leningradskogo tekhnologicheskogo instituta imeni Lensoveta.

(Zinc-cadmium alloys) (Electroplating)

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; ANDREYEVA, G.P.

Structure and properties of the electrodeposited zinc-tin alloy.
Zhur.prikl.khim. 36 no.3:671-673 My '63. (MIRA 16:5)
(Zinc-tin alloys) (Electroplating)

ANDREYEVA, G.P.; FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; PAL'MSKAYA, I.Ya.

Structure and physicochemical properties of electrolytic brass. Zhur.prikl.khim. 36 no.6:1283-1290 Je '63. (MIRA 16:8)
(Brass)

ANDREYEVA, O.P.; FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.

Structure and physicochemical properties of a copper-nickel electrolytic alloy. Zhur. prikl. khim. 36 no.9:1932-1936 D '63. (MIRA 17:1)

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; KASHCHEYEVA, Ye.A.

Study of some "structure-sensitive" properties of Ni-Co galvanic alloys. Zhur. prikl. khim. 36 no.11:2474-2477 N '63. (MIRA 17:1)

FEDOT'YEV, Nikolay Pavlovich; VYACHESLAVOV, Petr Mikhaylovich;
BURKAT, Galina Konstantinovna; IVANOVA, A.N., red.

[Technology of the deposition of an electrolytic silver-copper alloy] Tekhnologiia osazhdeniia elektroliticheskogo splava serebro-med.'. Leningrad, 1964. 8 p.
(MIRA 18:2)

L 46849-66 EWT(m)/EWP(e)/T/EWP(t)/ETI IJP(c) DS/JD/WW/JG/GD/WH

ACC NR: AT6024973 (N) SOURCE CODE: UR/0000/65/000/000/0194/0197

AUTHOR: Andreyeva, G. P.; Fedot'yev, N. P.; Vyacheslavov, P. M.

39

B+I

ORG: none

TITLE: Electrodeposition and properties of silver-palladium alloys

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Zashchitnyye metallicheskiye i oksidnyye pokrytiya, korroziya metallov i issledovaniya v oblasti elektrokhimii (Protective metallic and oxide coatings, corrosion of metals, and studies in electrochemistry). Moscow, Nauka, 1965, 194-197

TOPIC TAGS: silver alloy, palladium alloy, electrodeposition

ABSTRACT: The conditions of electrodeposition of Ag-Pd alloys from an electrolyte having LiCl as its main component and some physicochemical properties of these alloys were studied. LiCl and HCl concentrations were found to have a considerable influence on the quality of the deposits. The strongest influence on the composition of the alloys was exerted by the Ag:Pd ratio in the electrolyte. A study of the anodic process showed that carbon and graphite electrodes were best suited for the electrolysis of LiCl solutions. A study of the cathodic process showed that the net polarization curve of deposition of an Ag-Pd alloy is located at more positive potentials than the net polarization curves of deposition of the pure components. X-ray analysis and microhardness and electrical resistance measurements revealed the formation of solid solutions. In deposits containing over 70% Pd, a texture was observed which had an

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L 46849-66

ACC NR: AT6024973

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appreciable effect on the microhardness. Orig. art. has: 6 figures and 1 table.

SUB CODE: 11,13,07/SUBM DATE: 18Feb64/ ORIG REF: 004/ OTH REF: 002

Card 2/2 blg

ACC NR: AP6035750 SOURCE CODE: UR/0413/66/000/019/0120/0120

INVENTORS: Fedot'yev, N. P.; Vyacheslavov, P. M.; Burkat, G. K.; Volkova, N. V.

ORG: none

TITLE: An electrochemical method for obtaining a binary silver alloy. Class 48, No. 186825 /announced by Leningrad Order of the Workers Red Banner Technological Institute imeni Lensovet (Leningradskiy ordena Trudovogo Krasnogo Znameni tekhnologicheskiy institut)/

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 120

TOPIC TAGS: silver, alloy, silver containing alloy, binary alloy, cobalt compound, potassium compound

ABSTRACT: This Author Certificate presents an electrochemical method for obtaining a binary silver alloy from an electrolyte containing silver cyanide complex. To improve the resistance to abrasion, hardness and the resistance to corrosion of the precipitated coatings, the process is conducted at a temperature of 40--45C and at a current density of 0.1--0.5 a/dm^2, while the electrolyte is being mixed. The composition of the electrolyte should include pyrophosphates of cobalt and of potassium in the following proportions of the components (in g/liter): metallic silver -- 0.1--0.4; metallic cobalt -- 2.0--3.2; free potassium pyrophosphate -- 100.

SUB CODE: 11, 07/ SUBM DATE: 05May65

Card 1/1

UDC: 621.357.7:669.225'25

GRIBEL', V.I.; FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.

Change of the mechanical properties of electrolytic copper over a period of time. Elektrokhimiia 1 no.3:364-365 Mr '65.
(MIRA 18:12)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

ANDREYEVA, G.P.; FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.

Physicochemical properties and structure of the Au-Cu electrolytic alloy. Zhur.prikl.khim. 37 no.7:1469-1477 Jl '64. (MIRA 18:4)

FEDOT'YEV, N.P.; VYACHESLAVOV, P.M.; GRIBEL', V.I.

Change in the hardness of electrolytic silver with time. Zhur. prikl. khim. 37 no.6:1372-1376 Je '64. (MIRA 18:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

L [illegible]758-63 EPR/EPF(c)/EWP(q)/EWT(m) BDS AFFTC/ASD/ESD-3 Ps-4/Pr-4

ACCESSION NR: AP3006179 S/0080/63/036/007/1461/1462

AUTHORS: Fedot'yev, N. P.; Vyacheslavov, P. N.; Andreeva, O. P.; Volokhonskiy, N[redacted]

TITLE: A method for obtaining porous electrolyte deposits 1 6

14

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 7, 1963, 1461-1462

TOPIC TAGS: Electrodeposition, porous electrolyte deposit, cobalt, colloidal graphite, PA-5 porometer

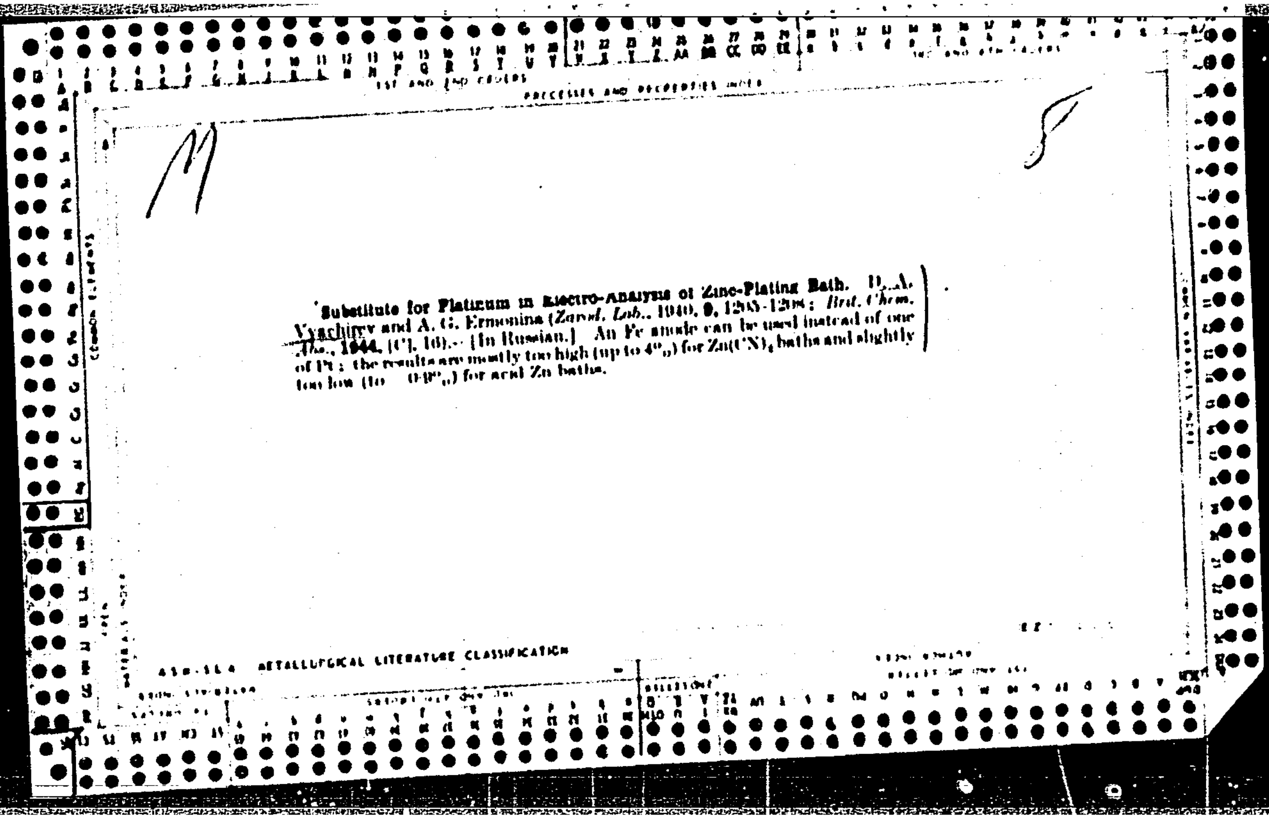
15 27

ABSTRACT: By adding colloidal graphite (12 g/liter), porous cobalt deposits, tightly bonded to the base, were obtained. A recently developed method for evaluating porosity, involving pressing mercury in the PA-5 porometer (Fedot'yev et al., ZhL 6, 1959), showed that the pore volume of the cobalt deposits was 6.5% of the total surface, and the area of the lateral pore surface approximately 1700 times as great as the geometric surface of the sample. The method described should be applicable to other metals as well. Orig. art. has: 1 table.

Card 1/2

VYACHESLAVOVA, Tat'yana Vasil'yevna; zasluzhennyy agronom RSFSR;
BELYAYEV, Nikolay Nikolayevich; MAL'CHIKOVA, V.K., red.;
PRESNOVA, V.A., tekhn.red.

[Correct crop rotation is the basis for high crop yields;
from the practices of the Gatchina Variety Testing Station]
Pravil'nyi sevooborot - osnova vysokikh urozhaev; iz opyta
raboty Gatchinskogo sortouchastka. Leningrad, Lenizdat,
1961. 61 p. (MIRA 15:2)
(Gatchina District--Agricultural experiment stations)
(Rotation of crops)


1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

M

8

Substitute for Platinum in Electro-Analysis of Zinc-Plating Bath. D. A. Vyachirev and A. G. Ermonina (*Zavod. Lab.*, 1940, 9, 1293-1298; *Brit. Chem. Abs.*, 1944, [C], 10).—[In Russian.] An Fe anode can be used instead of one of Pt; the results are mostly too high (up to 4%) for $Zn(CN)_2$ baths and slightly too low (to −0·8%) for acid Zn baths.

VYADIMIROV, G. E.

Chemists

M. V. Nentskii and his scientific activity., Fiziol. zhur., 37, No. 6, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1952. ~~1953~~, Uncl.

VYADRO, G.A.

Correcting the size of the pleural cavity following partial resection of the lungs for tuberculosis. Probl. tub. 42 no.8:91-92 '64. (MIRA 18:12)

1. Legochno-khirurgicheskaya bol'nitsa (glavnyy vrach G.A. Vyadro) kurorta "Borovoye".

VYADRO, G.A.

Experience in resection of the lungs in tuberculosis patients.
Probl. tub. 41 no.11:39-41 '63. (MIRA 17:9)

1. Iz legochno-khirurgicheskoy bol'nitsy (glavnyy vrach A.N.Tiunova) kurorta "Borovoye".

VYADRO, G.Ya.; FAYN, I.D.

Results of industrial tests of the new DS-5 and TsP-7 films. Tekh.kino i telev. 4 no.10:49-56 O'60. (MIRA 13:10)

1. Kiyevskaya kinostudiya im.A.P.Dovzhenko.
(Motion-picture photography--Films) (Color motion pictures)

VYADRO, M.D., podpolkovnik meditsinskoy sluzby, kand.med.nauk

Some mistakes permitted during altitude observations in a pressure chamber. Voen.-med.zhur.no.8:62-65 Ag'58. (MIRA 16:7)
(ALTITUDE, INFLUENCE OF) (AVIATION MEDICINE)

YAKUSHA, Georgiy Borisovich, kand. tekhn. nauk; BEREZNYUK, V.A., kand. tekhn. nauk, otv. red.; VYADRO, Sh.Ya., red.; MATVIICHUK, O.A., tekhn. red.

[Main trends of technological progress in the industry of the Ukrainian S.S.R.] Osnovni napriamy tekhnichnoho progresu v promyslovosti Ukrains'koi RSR. Kyiv, 1961. 38 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.7, no.8) (MIRA 14:11)

(Ukraine—Technology)

PANFILOV, Konstantin Konstantinovich, kand. tekhn. nauk; VLASOV, N.I.,inzh., otv. red.; VYADRO, Sh.Ya., red.; MATVIICHUK, A.A., tekhn. red.

[Automation and remote control on railroads] Avtomatika i telemekhanika na zheleznykh dorogakh. Kiev, 1961. 46 p. (Obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii Ukrainskoi SSR. Ser.7, no.10) (MIRA 15:1)
(Railroads) (Automation) (Remote control)

SHEVCHENKO, F.D., kand. khim. nauk; GOLUB, A.M.[Holub, A.M.], kand. khim. nauk, dotsent, otv. red.; VYADRO, Sh.Ya., red.; MATVIICHUK, O.A., tekhn. red.

[Basic principles and laws of chemistry] Osnovni poniattia i zakony khimii. Kyiv, Tovarystvo dlia poshyrennia polit. i nauk. znan' URSR, 1961. 34 p. (MIRA 15:1)

(Chemistry)

VSEKHSVYATSKIY, Sergey Konstantinovich, doktor fiziko-matem. nauk, prof.; GORDELADZE, Sh.G., kand. fiziko-matem. nauk, dots., otv. red.; VYADRO, Sh.Ya., red.; MATVIICHUK, A.A., tekhn. red.

[Current problems in the study of the nearest planets] Sovremennye problemy issledovaniia blizhaishikh planet. Kiev, Ob-vo po rasprostraneniiu polit. i nauch. znanii USSR, 1961. 48 p. (MIRA 15:2)

(Planets—Observation)